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Changes in emergency department coverage for the neurologist

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Summary

The role of the neurologist in the emergency department (ED) is constantly evolving and has become more diversified in recent times. This article gives an overview of different practice models that neurologists are employing to cover ED calls. A review of billing and coding for ED visits is also discussed.

Physicians care for patients in many settings: outpatient, inpatient, and emergency department (ED). As the environment of health care evolves, patient management in each setting is evolving. Between 1997 and 2007, ED visits increased by more than a third, and neurology ED coverage is an area that is quickly changing and diversifying.¹

Practice models

According to a 2010 American Academy of Neurology census survey with responses from 695 of 2,203 surveyed, 51.9% of US neurologists were in private practice, either solo or group setting. Another 35.6% were in multispecialty groups including university practice settings.² The number of neurologists in different practice settings creates different methods of how ED coverage is handled. We present a brief overview of 4 different ED coverage practice models in those settings. These practice models do not represent all specific types of practices but are representations based on interviews with practicing neurologists. The 4 ED coverage patterns discussed here are traditional private practice, neurohospitalist, academic, and teleneurology.

Traditional private practice The traditional private practice neurologist problem with ED coverage is seeing his outpatients while also serving on call for emergencies at one or a few hospitals. The solo practice neurologist may share ED call with other area neurologists, if others are in the area. Group practice members more easily split call. This model's limitation is more evident when there is an emergent call during office hours. In some instances such as acute stroke, the neurologist may be called upon to cancel outpatient appointments to attend to the



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When the ED provider decides to involve neurology, a decision must be made among the emergency provider, resident, and attending neurologist.

daytime ED coverage. Coverage may be especially acute for stroke call where tissue plasminogen activator (tPA) is considered.

While this traditional model still exists for many practices, others are changing how they approach hospital and ED coverage. Several approaches may be utilized: physicians in some groups take long stretches of ED and hospital call with limited or no outpatient responsibilities; hire one or more dedicated neurohospitalists who cover all ED call and inpatient responsibilities; or decide not to cover EDs at all.^{3,4}

Limiting outpatient tasks during periods of ED and inpatient call decreases the need for last-minute clinic schedule rearrangements. It also reduces most work days since much of the after-hours work can be handled during the day. In this model, a neurologist may take on the whole group's hospital and ED duties for a week with no or limited outpatient responsibility. This allows each neurologist to concentrate on one set of patients at a time, improving inpatient continuity and decreasing the need to cancel or reschedule outpatient appointments.

Some groups negotiate a hospital stipend payment to the neurology group for ED call. Under the Emergency Medical Treatment and Active Labor Act (EMTALA), most hospitals are required to provide nondiscriminatory access to examination and stabilization treatment when a patient presents to an ED with an emergent medical condition. Under this mandate, hospitals must have access to specialists who are on call to provide services to emergent patients on the same level that the hospital routine offers those services.^{5,6} For example, if a patient arrives to an ED with an orthopedic emergency, the hospital must provide orthopedic services if it offers orthopedic services at other times. The responsibility for compliance with EMTALA and maintaining the specialist on-call panel rests with hospitals.⁷ The stipend for being on-call, therefore, is arranged through the hospital, a process that may take prolonged negotiations. The greatest need may be in off-hours emergency stroke coverage, which may be the best clinical area for neurologists' negotiations with a hospital.

The utilization of the neurohospitalist is discussed in the following section.

Amidst the difficulties of balancing the needs of a practice, decreases in reimbursement, and increases in liability, some neurologists have decided not to cover ED calls. Although some hospital staff policies require ED coverage, no law requires a physician to service call. As a result, some neurologists have decided not to take any ED call.^{8,9} According to a survey via personal communication from June through July 2012 of 70 practicing neurologists in the Los Angeles area, 11% of neurologists have opted out of ED call.

Neurohospitalist The growing trend toward utilizing a neurology hospitalist changes the practice of neurology especially in the ED setting. Neurology hospitalists, also known as neurohospitalists, are defined as subspecialists who are dedicated to caring for the inpatients of a hospital or facility.¹⁰ The American Academy of Neurology established a section dedicated to this set of neurologists in 2009, and it had more than 300 members by 2011. A quarterly journal, *The Neurohospitalist*, was started in 2011, also dedicated to neurohospitalists. It was estimated in 2011 that there are 300 to 600 practicing neurohospitalists in the United States.¹¹ In regards to patient care, neurohospitalists do not have outpatient responsibilities, therefore allowing them to care for inpatient and emergent situations of the hospital.

Neurohospitalists may be hired by private group practices or may be hospital employees. In some practices, the neurohospitalist covers all inpatient and ED calls during business hours for the group. Weekend and night calls may then be split among all practice members. Larger practices and hospitals can hire several neurohospitalists to provide continuous inpatient and ED coverage.¹⁰ With the growth and need for neurohospitalists, the role of nurse practitioners and physicians' assistants in these positions may be utilized as it is in other specialties. Where neurohospitalists are available, office-based neurologists have uninterrupted time to spend with outpatients.

Practice expenses are less for hospitalists, because they do not use office space and staff when providing patient care. This is accounted for in the Medicare Professional Fee Schedule. The practice expense relative value units (RVUs) for facility-based services are less, whereas for office-based services they are more. For example, level 4 established office visit and level 2 subsequent hospital visit codes both have a 25-minute base time. The outpatient code 99214 has 3.06 RVUs, whereas inpatient code 99232 has 2.05 RVUs. This is relevant for private practice hospitalist neurologists who cover the local ED. Practice expenses are covered less well for services provided in a facility's ED, patients on observation status, or for inpatients. Hospital-employed neurohospitalist physicians often are salaried and use staff and support provided by the hospital, so practice expense is less of a consideration for them.

Academic-teaching practice Academic-teaching settings often use the resident-and-attending model for most ED coverage. The on-call resident sees the patient and contacts the on-call attending for guidance. The attending then may arrive at the ED for urgent situations, or see the patient the next morning with the resident team, or give advice before discharging the patient from the ED.

This traditional academic-teaching model is undergoing change. The Accreditation Council for Graduate Medical Education (ACGME) has set new national program duty hour standards. The new standards reduce maximum work hours on duty for residents with the hours allowed dependent on a resident's postgraduate year (PGY) level.¹² These regulations have decreased resident neurologists' ability to staff off-hours ED calls. Some academic program neurology residents now cover off-hour and weekend ED calls from home. When the ED provider decides to involve neurology, a decision must be made among the emergency provider, resident, and attending neurologist. The decision may be that the resident goes to the hospital to see the patient at once, the patient is admitted to another team with neurology consulting on the patient the next day, or the patient is discharged from the ED with an appointment with a neurologist in an outpatient setting.

Neuro-telemedicine In the ever-changing environment of neurology, the need for neurologists in more acute settings has increased. This is often more acute for rural areas, since there is an uneven distribution of neurologists between metropolitan and rural settings. The misdistribution ranges from 11.02 neurologists for every 100,000 people in Washington, DC, to 1.78 neurologists per 100,000 people in Wyoming.¹³ This leaves a number of the US population with limited accessibility to a neurologist.

This disparity of neurologists has become an issue particularly with rural areas that do not have access to a neurologist, or to a stroke specialist, in case of acute stroke. According to the NIH, in 2011, there were approximately 1,000 primary stroke centers in the United States, but more than a quarter of the US population lives in an area with no access to a primary stroke center.^{7,14} This issue was addressed in 1999 with the initial proposal to utilize telemedicine for acute stroke.¹⁵ Since that proposal, the growth of telemedicine has been rapid, with multiple companies offering the service regionally and nationally. Many academic-teaching institutions and primary stroke centers have also expanded their services to include neuro-telemedicine, also known as telestroke in cases of acute stroke calls. Telemedicine has improved access to neurologic care, and in certain situations, increased the use of tPA for acute ischemic stroke. In a study performed at Yale University School of Medicine, the rate of administration of IV tPA at a community hospital was evaluated before and after a telestroke program was initiated. The rate of IV tPA administration with the use of telestroke increased by 160%.¹⁶ Telemedicine can

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significantly increase the ability of hospitals to provide neurologic services when no on-site neurologist is available.¹⁷

The typical telemedicine model, as described by one of the leaders in clinical telemedicine, allows an ED to contact an on-call neurologist as often as needed.¹⁸ The hospital pays a fee for the services of the telemedicine company. The company sets up and installs all necessary equipment. The company contracts with neurologists who take shifts on-call for different hospitals or regions of the country.⁴ The neurologists may be paid a flat rate by the company, or may be paid per consult depending on the negotiations and contracts with the company providing the telemedicine service.

Telesroke has been on the forefront of this technological and practice model. The neurologist has audio-video link to see the patient's examination and take some history from the patient or family. This allows for an NIH Stroke Scale measurement to be determined. The neurologist has access to view the imaging. This also allows for a quick determination of a care plan, hopefully well within the allowed time window for acute stroke treatments. Sometimes this allows for treatment to start at one hospital followed by emergency transport to a tertiary center for prompt advanced care such as clot retrieval.

With the availability of audio-video links and community transfer for higher levels of care, other neurologic diagnoses are likely to fall into place for neuro-telemedicine ED care. For example, to differentiate seizures from nonepileptic events, quick simple technological solutions are developing for recording and transmitting ED EEG to the on-call neurologist.¹⁹ Other areas of medicine, such as multiple sclerosis, movement disorders, critical care, psychiatry, and radiology, are also using telemedicine technology to advance care and follow up on treatment to those who have limited access.¹⁷

Advice for treatment of some disorders may be moving gradually toward non-face-to-face consultation even for less acute disorders. Some traditional health maintenance organization models and private practices have used this for many years, with the neurologist giving telephone advice to the ED. Telemedicine makes that potentially more thorough and accurate. A possible and significant factor holding that back is the fear of litigation associated with a failure to examine the patient personally. Another barrier to telemedicine is the potential disruption to the traditional doctor-patient relationship.¹⁷

Follow-up care

As neurology ED coverage evolves, so does the model for outpatient follow-up care.

In a traditional practice model, the physician sees the patient in the ED, and then follows him or her in the outpatient setting for follow-up care. For the private practice neurohospitalist model or the modified private practice model, in which a group physician takes an extended period of call, follow-up patients may be distributed among other group members. Patients seen in the ED by hospital-employed neurohospitalists are referred to outpatient neurologists in the area.

For the academic-teaching setting, follow-up care is provided by members of the academic-teaching team. Patients may be seen by the resident who cared for them in the ED, referred to another resident due to patient load or availability, or may be seen by an attending physician. This division of patients is often determined by availability as well as area of specialty needed for the patient. This is becoming more complex with the advent of ACGME restriction on resident

Table CPT code families used for patient care in the emergency department at levels 3-5

Patient situation	Most carriers	Medicare and certain other carriers
Patient went home	Outpatient consult	Emergency visit
	CPT 99243-99245	CPT 99283-99285
	2.72-5.36 RVUs	1.74-4.78 RVUs
Patient admitted before midnight	Inpatient consult	Initial inpatient visit
	CPT 99253-99255	CPT 99221-99223
	3.22-5.62 RVUs	2.76-5.52 RVUs
Patient still in ED at midnight	Outpatient consult	Emergency visit
	CPT 99243-99245	CPT 99283-99285
	2.72-5.36 RVUs	1.74-4.78 RVUs
Patient in observation status, seen in practice in past 3 years	Outpatient consult	Established outpatient
	CPT 99243-99245	CPT 99213-99215
	2.72-5.36 RVUs	1.41-3.03 RVUs
Patient in observation status, not seen in past 3 years	Outpatient consult	New outpatient
	CPT 99243-99245	CPT 99203-99205
	2.72-5.36 RVUs	2.11-4.61 RVUs

Abbreviations: CPT = Current Procedural Terminology; ED = emergency department; RVU = relative value unit.

RVUs are from the National Medicare Professional Fee Schedule, fully transitioned facility RVUs. Centers for Medicare and Medicaid Services.²¹

work hours. Residents have more limited available continuity clinics to see patients whom they cared for at the ED. Patients may then fall into a pool for follow-up, which detracts from continuity for the patient. This impairment of continuity is a substantial disadvantage resulting from the restrictions placed on resident work hours.

For patients cared for via neuro-telemedicine, the local ED primary physician who collaborated with the on-call neurologist determines follow-up care.

Coding and billing

The coverage of patients in emergent situations is changing, and this is more complicated by the change of billing codes. Coding for patients seen in the ED depends on several factors:

1. Whether the carrier accepts consult Current Procedural Terminology (CPT) codes (CPT and its numerical coding is a registered trademark of the American Medical Association)
2. Whether the patient was on observation status
3. Whether the patient was admitted to the hospital before midnight
4. Whether the patient had been seen previously by another member of the same practice within the past 3 years

For many carriers, a consultation in the ED is coded as an outpatient consultation using CPT codes 99241-99245. Many neurology patients tend to be at the higher end of that scale due to the complexity of the presenting problem, the physician work, and the medical decision-making involved. In most cases the moderate and high decision-making codes are used, which are 99244 or 99245.²⁰

Medicare and some other carriers no longer accept the consult code families. In those cases, a consultation in the ED is coded as an ED service using CPT 99281-99285. Those are the same codes as used by the primary ED physician.

The Medicare rule changes if the patient is admitted to observation status by the time the neurologist sees the patient. This depends on the clock time when observation status was ordered, not the status at midnight that night. A consultation on a Medicare observation status patient is coded as an outpatient visit, using the same codes as for an office visit. As usual for an office visit, the patient is coded as an established outpatient with codes 99212–99215 if you or another neurologist in your practice has seen the patient in the past 3 years. Otherwise, the visit is coded as a new outpatient with codes 99201–99205.

If the patient is admitted to the hospital before midnight that evening, the ED visit earlier in the day must be coded as an inpatient consultation. For most insurance carriers, use inpatient consult codes 99251–99255 in these circumstances. For Medicare and some other carriers, service is an initial inpatient visit, with codes 99221–223.

See the table for a summary of these ED patient care coding rules. In each case, the coding assumes that the patient's presenting problem; the work done by the physician; and the documentation of history, examination, presenting problem, and physician work was adequate for the level of service coded. Details of that decision-making and documentation standards are beyond the scope of this article.

Since telemedicine neurologists are reimbursed by company contracts, in many cases the billing may not be determined or performed by the on-call neurologist. In some cases, the service may be billed to the patient using telemedicine modifier codes. There are rules for using those codes, which are beyond the scope of this review.

As the health care environment continues to change, neurologists are adjusting their practice models of covering emergency calls. With multiple options and possible modifications, the neurologist needs to evaluate the best method for handling emergency calls and outpatient aftercare for ED patients. The neurologist who evaluates ED patients also needs to understand the different levels of billing and coding.

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